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Mayor Coleman, Councilmember Paley Inspect Largest Capital Project In Columbus History

Mayor Michael B. Coleman, City Councilmember Eileen Y. Paley and Department of Public Utilities Director Greg Davies joined other city leaders touring the main site of a two-phase project totaling $342 million that will dramatically reduce combined sewer overflows in downtown Columbus. The OSIS Augmentation Relief Sewer (OARS) project will result in a tunnel stretching from the north end of the Arena District, through Downtown, to the Jackson Pike Wastewater Treatment Plant. The tunnel will be 4.5 miles long, 20-foot in diameter and as much as 190 feet deep. When functional by the end of 2014, OARS will eliminate more than 1 billion gallons of overflows annually from the existing Olentangy Scioto Interceptor Sewer (OSIS) by storing and transporting them to treatment facilities, rather than having them overflow into the river.

"When our sewers overflow into the Scioto, it's bad for the river and bad for our city," said Mayor Coleman. "This project will greatly reduce those overflows, making our river cleaner and improving the quality of life around it."

The tour of the OARS site, just north of the Jackson Pike treatment facility, included being lowered to the bottom of the 180-foot shaft where the tunnel boring machine is being assembled. When fully operational, the boring machine will be over 540 feet in length and will include a 23-foot diameter, 95-ton cutterhead that will excavate through the rock, a conveyor system to remove that debris, a ventilation system, and an area where segments of the tunnel itself will be assembled and installed while the machine advances.

"We do everything we can to keep the costs of this project and others as low as possible. The projects themselves are reviewed often, including during construction, to make sure we are doing everything as efficiently as possible," said Paley, chair of council's Public Utilities Committee. "This project also qualifies for low-interest loans through the Ohio Environmental Protection Agency that will, over the life of the loan, save our ratepayers millions of dollars compared to financing through higher interest rate bonds."

OARS Project Facts and Figures

After OARS is completed:

- Combined Sewer Overflow (CSO) discharges from 12 downtown regulators eliminated for up to a 10-year flow event
- CSO discharges from WSST (Whittier Street Storm Tanks) eliminated for a Typical Year event
- CSO discharges at the Jackson Pike WWTP limited to no more than 4 during the Typical Year
- Over 1 Billion Gallons of Combined Sewage Overflows per year eliminated

PROJECT

Phase 1

- Notice of Commencement (NOC) and Notice to Proceed (NTP) – September 2, 2010.

- Substantial Completion – December 31, 2014
- Final Completion – June 1, 2015
- Contract Amount - $264,506,000
- Contractor – Kenny/Obayashi Joint Venture
- Phase 1 includes the entire tunnel, Shafts 1, 2 and 6, OSIS Relief Structure at Shaft 6, Screen Building over Shaft 2, West Gate Chamber.
- Shaft 1 - 52-ft ID (Interior Diameter)
- Shaft 2 - 42-ft ID
- Shaft 6 - 48-ft ID

Phase 2

- NOC & NTP – August 25, 2011
- Substantial Completion – December 31, 2014
- Final Completion – June 1, 2015
- Contract Amount - $77,000,000
- Contractor – Trumbull Corporation
- Phase 2 includes Shafts 3, 4, and 5, OSIS Relief Structures at Shafts 4 and 5, Scioto Main Relief Structure, Pump Station at Shaft 1, Pump Electrical Building, River Overflow Structure, Regulator Microtunnel connections at Shafts 4 and 5.
- Shaft 3 – 20-ft Dia.
- Shaft 4 – 35-ft Dia.
- Shaft 5 – 35-ft Dia.

Tunnel

- Total Length 23,317 Ft. (~ 4.5 Miles)
- Bore Diameter ~23 ft.
- Interior Diameter 20 ft.
- Average Depth to the Invert 170 ft.
- Gradient 0.13%
- Total Tunnel Capacity 55 Million Gallons
- Total Shaft Capacity 5 Million Gallons
- Muck Transport Conveyors 7 Conveyors, 23,770 ft. Total Length

Tunnel Boring Machine (TBM)

- Cutterhead Weight: 95 Tons
- Cutterhead Diameter: ~ 23 ft.
- Cutterhead plus Shield Weight: 350 Tons
- Number of Gantry Cars 11
- Total Length 546 Ft.
- Total Cost ~ $26 Million
- Anticipated Average Production – 68 ft./day (based on 3-8hr. shifts per day, 5 days a week)

Universal Gasketed Concrete Segments

- Total Number of Rings 4,590
- Ring Thickness 1 ft.
- Nominal Ring Width 5 ft.

- Number of Segments per Ring 6
- Steel Reinforcement Weight per Ring ~ 1 Ton
- Ring Weight ~ 25 Tons

Pump Station
4-15 MGD Pumps (Tunnel), 2-20 MGD Pumps (Shafts), 2-1 MGD Grit Pumps

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